gettering the material for promoting crystallization into the third semiconductor film.

47. A method of manufacturing a semiconductor device comprising:

forming a first semiconductor film having an amorphous structure over a substrate;

providing the first semiconductor film with a material for promoting crystallization;

heating the first semiconductor film for crystallizing;

irradiating the first semiconductor film with a laser light for improving crystallinity;

forming a barrier layer over the first semiconductor film having crystalline structure;

forming a second semiconductor film over the barrier layer, the second semiconductor film comprising an inert gas element;

gettering the material for promoting crystallization into the second semiconductor film.

48. A method of manufacturing a semiconductor device comprising:

forming a first semiconductor film having an amorphous structure over a substrate;

providing the first semiconductor film with a material for promoting crystallization;

heating the first semiconductor film for crystallizing;

irradiating the first semiconductor film with a laser light for improving crystallinity;

forming a second semiconductor film over the first semiconductor film;

forming a third semiconductor film over the second semiconductor film, the third semiconductor film comprising an inert gas element;

gettering the material for promoting crystallization into the third semiconductor film.

49. A method of manufacturing a semiconductor device comprising:

forming a first semiconductor film having an amorphous structure over a substrate;

providing the first semiconductor film with a material for promoting crystallization;

heating the first semiconductor film for crystallizing;

irradiating the first semiconductor film with a laser light for improving crystallinity;

forming a second semiconductor film over the first semiconductor film, the second semiconductor film comprising an inert gas element;

gettering the material for promoting crystallization into the second semiconductor film.

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50. A method of manufacturing a semiconductor device according to claim 46, wherein the barrier layer is formed by oxidizing a surface of the first semiconductor film by using a solution containing ozone.

51. A method of manufacturing a semiconductor device according to claim 47, wherein the barrier layer is formed by oxidizing a surface of the first semiconductor film by using a solution containing ozone.

52. A method of manufacturing a semiconductor device according to claim 46, wherein the barrier layer is formed by oxidizing a surface of the first semiconductor film by irradiating ultraviolet light.

53. A method of manufacturing a semiconductor device according to claim 47, wherein the barrier layer is formed by oxidizing a surface of the first semiconductor film by irradiating ultraviolet light.

54. A method of manufacturing a semiconductor device according to claim 46, wherein the inert gas element is at least an element selected from the group consisting of He, Ne, Ar, Kr and Xe.

55. A method of manufacturing a semiconductor device according to claim 47, wherein the inert gas element is at least an element selected from the group consisting of He, Ne, Ar, Kr and Xe.

56. A method of manufacturing a semiconductor device according to claim 48, wherein the inert gas element is at least an element selected from the group consisting of He, Ne, Ar, Kr and Xe.

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57. A method of manufacturing a semiconductor device according to claim 49, wherein the inert gas element is at least an element selected from the group consisting of He, Ne, Ar, Kr and Xe.

58. A method of manufacturing a semiconductor device according to claim 46, wherein the third semiconductor film comprises the inert gas element at a concentration of 1×10^{19} to 1×10^{22} /cm^3.

59. A method of manufacturing a semiconductor device according to claim 47, wherein the second semiconductor film comprises the inert gas element at a concentration of 1×10^{19} to 1×10^{22} /cm^3.

60. A method of manufacturing a semiconductor device according to claim 48, wherein the third semiconductor film comprises the inert gas element at a concentration of 1×10^{19} to 1×10^{22} /cm^3.

61. A method of manufacturing a semiconductor device according to claim 49, wherein the second semiconductor film comprises the inert gas element at a concentration of 1×10^{19} to 1×10^{22} /cm^3.

62. A method of manufacturing a semiconductor device according to claim 46, wherein the semiconductor device is applied to an electronic apparatus selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a DVD, a digital camera, a front type projector, a rear type projector, a mobile phone and an electronic book.

63. A method of manufacturing a semiconductor device according to claim 47, wherein the semiconductor device is applied to an electronic apparatus selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a DVD, a digital camera, a front type projector, a rear type projector, a mobile phone and an electronic book.

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64. A method of manufacturing a semiconductor device according to claim 48, wherein the semiconductor device is applied to an electronic apparatus selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a DVD, a digital camera, a front type projector, a rear type projector, a mobile phone and an electronic book.

65. A method of manufacturing a semiconductor device according to claim 49, wherein the semiconductor device is applied to an electronic apparatus selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a DVD, a digital camera, a front type projector, a rear type projector, a mobile phone and an electronic book.

66. A method of manufacturing a semiconductor device comprising:

providing a crystalline semiconductor film comprising silicon over a substrate, said crystalline semiconductor film containing metallic element;

forming a barrier layer over the crystalline semiconductor film;

forming a second semiconductor film over the barrier layer;

forming a third semiconductor film comprising an inert gas element over

the second semiconductor film;

gettering the metallic element into the third semiconductor film to remove or reduce the amount of the metallic element within the first semiconductor film having a crystalline structure; and

removing the second semiconductor film and the third semiconductor film.

67. A method of manufacturing a semiconductor device comprising:

providing a crystalline semiconductor film comprising silicon over a substrate, said crystalline semiconductor film containing metallic element;

forming a barrier layer over the crystalline semiconductor film;

forming a second semiconductor film over the barrier layer;

adding an inert gas element to an upper layer of the second semiconductor film;

gettering the metallic element into the upper layer of the second semiconductor film to remove or reduce the amount of the metallic element within the crystalline semiconductor film having a crystalline structure; and

removing the second semiconductor film.

68. A method of manufacturing a semiconductor device according to claim 66, wherein the barrier layer is formed by oxidizing a surface of the first semiconductor film by using a solution containing ozone.

69. A method of manufacturing a semiconductor device according to claim 67, wherein the barrier layer is formed by oxidizing a surface of the first semiconductor film by using a solution containing ozone.

70. A method of manufacturing a semiconductor device according to claim 66, wherein the barrier layer is formed by oxidizing a surface of the first semiconductor film by irradiating ultraviolet light.

71. A method of manufacturing a semiconductor device according to claim 67, wherein the barrier layer is formed by oxidizing a surface of the first semiconductor film by irradiating ultraviolet light.

72. A method of manufacturing a semiconductor device according to claim 66, wherein the inert gas element is at least an element selected from the group consisting of He, Ne, Ar, Kr and Xe.

73. A method of manufacturing a semiconductor device according to claim 67, wherein the inert gas element is at least an element selected from the group consisting of He, Ne, Ar, Kr and Xe.

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74. A method of manufacturing a semiconductor device according to claim 66, wherein the third semiconductor film comprises the inert gas element at a concentration of 1×10^{19} to 1×10^{22} /cm^3.

Concl'd

75. A method of manufacturing a semiconductor device according to claim 67, wherein the second semiconductor film comprises the inert gas element at a concentration of 1×10^{19} to 1×10^{22} /cm^3.

76. A method of manufacturing a semiconductor device according to claim 66, wherein the semiconductor device is applied to an electronic apparatus selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a DVD, a digital camera, a front type projector, a rear type projector, a mobile phone and an electronic book.

77. A method of manufacturing a semiconductor device according to claim 67, wherein the semiconductor device is applied to an electronic apparatus selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a DVD, a digital camera, a front type projector, a rear type projector, a mobile phone and an electronic book. --